

Communicable Disease Update

MECKLENBURG COUNTY HEALTH DEPARTMENT
A Quarterly Publication



Disease Detectives

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This periodical is written and distributed quarterly by the Communicable Disease Program of the Mecklenburg County Health Department for the purpose of updating the medical community in the activities of Communicable Disease Control.

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Chikungunya Has Arrived in North Carolina



The Asian tiger mosquito, found over all of North Carolina, can carry the virus that causes chikungunya.

While there are no medications to specifically treat this infection, physicians may suggest medication to relieve fever or pain, rest and increased fluids to prevent dehydration.

All travelers returning from countries known to have chikungunya should see their doctor if they start to feel ill within 2 weeks after returning home.

Chikungunya (pronunciation: chik-en-gun-ye) is a virus that is transmitted to people by mosquitoes. At this time, there have not been any cases of the disease known to have been acquired in North Carolina or the continental United States. **Chikungunya is reportable immediately in North Carolina effective June 23, 2014.**

Chikungunya virus is most often spread to people by *Aedes aegypti* and *Aedes albopictus* mosquitoes. *Aedes albopictus*, commonly known as the Asian tiger mosquito, is common in North Carolina and can spread chikungunya virus. This type of mosquito prefers to lay their eggs in containers that hold small amounts of stagnant water, such as bird baths, buckets and tires. They do not typically breed in running water such as creeks or large ponds. The Asian tiger mosquito mostly bites during the day time hours, especially in the mornings and before sunset. *Aedes aegypti* has been present in North Carolina in the past but entomologists report it has become much less common in the past two decades.

Chikungunya virus has caused outbreaks in Africa, Asia and the islands in the Indian Ocean and the Western Pacific. Recently, it has been imported to the Caribbean and has spread rapidly through multiple islands, including Haiti and the Dominican Republic. Travelers to these countries could carry the virus back to the United States and infect local mosquito populations.

To reduce mosquito breeding areas around your home, practice frequent "Tip & Toss" activities. Remove any containers that can hold water, especially old tires. Cover rain barrels with tight fitting screens or lids and keep gutters clean and in good repair. Inspect tarps on things such as woodpiles and drain any standing water. Use screened windows and doors and make sure screens are not torn and fit tightly. If water cannot be drained, such as in ornamental ponds, stock the pond with fish that will eat mosquito larvae or treat the water with products that will kill mosquito larvae, available at your local hardware store. Follow the label directions carefully.

Forsyth County confirmed North Carolina's first case of chikungunya and Alamance County the second. Both patients had visited the Caribbean where the virus first appeared in December. As of June 6, 2014, the Pan American Health Organization reports over 130,000 cases in the Caribbean islands.

Most people infected with chikungunya virus will develop some symptoms usually begin 3-7 days after being bitten by an infected mosquito. The most common symptoms are fever and joint pain. Other symptoms may include headache, muscle pain, joint swelling, or rash. Chikungunya does not often result in death, but the symptoms can be severe and disabling. Most patients feel better within a week. In some people, the joint pain may persist for months. Once a person has been infected, he or she is likely to be protected from future infections.

For more information contact Beth Quinn at or Elizabeth.Quinn@MecklenburgCountyNC.gov or 704.336.5398 or visit <http://www.cdc.gov/chikungunya/>

Middle East Respiratory Syndrome Coronavirus (MERS-CoV)

Effective June 23, 2014, MERS-CoV has been made immediately reportable in NC, under Temporary Order of the NC State Health Director. North Carolina has not investigated or reported any cases of MERS-CoV to date.

Middle East Respiratory Syndrome Coronavirus (MERS-CoV) was first reported to cause human infection in September, 2012. Since mid-March, 2014, there has been a significant increase in reported cases to the World Health Organization (WHO). As of May 12, 2014, there have been 536 laboratory-confirmed cases reported to the WHO, which includes 145 deaths. All reported cases have been directly or indirectly linked through travel or residence to seven countries: Saudi Arabia, UAE, Qatar, Oman, Jordan, Kuwait and Yemen. Public health investigations are ongoing to identify the reason for the increase in cases and to investigate clusters of cases in several countries to better understand how MERS-CoV spreads from person to person.

Source: We do not know for certain where the virus came from. It is likely it came from an animal source. In addition to humans, MERS-CoV has been found in camels in Qatar, Oman, Egypt and Saudi Arabia, and a bat in Saudi Arabia. Camels in several other countries have also tested positive with MERS-CoV or a closely related virus. It may be that people became infected after contact with camels, although more information is needed to figure out the possible role that camels, bats, and other animals may play in the transmission of MERS-CoV.

Transmission: MERS-CoV has spread from ill people to others through close contact. Infected people have spread MERS-CoV to others in healthcare settings, such as hospitals. Researchers studying MERS have not seen any ongoing spreading of MERS-CoV in the community.

Based on what researchers know so far, people who have pre-existing medical conditions (also called comorbidities), may be more likely to become infected with MERS-CoV. Individuals with weakened immune systems are also at higher risk for getting MERS-CoV or having a severe case.

Incubation Period: Based on information to date, the incubation period for MERS is 2-14 days.

Case Definition: A person with the following characteristics should be a patient under investigation (PUI):

A. Fever (≥ 38 degrees C, 100.4 degrees F) and pneumonia or acute respiratory distress syndrome (based on clinical or radiological evidence) AND EITHER:

- A history of travel from countries in or near the Arabian Peninsula within 14 days before symptom onset, OR
- Close contact with a symptomatic traveler who developed fever and acute respiratory illness (not necessarily pneumonia) within 14 days after traveling from countries in or near the Arabian Peninsula OR
- A member of a cluster of patients with severe acute respiratory illness (e.g. fever and pneumonia requiring hospitalization) of unknown etiology in which MERS-CoV is being evaluated, in consultation with state and local health departments.

OR

B. Fever and symptoms of respiratory illness and being in a healthcare facility as a patient, worker or visitor within 14 days before symptom onset in a country or territory near the Arabian Peninsula in which recent healthcare-associated cases of MERS have been identified.

PUIs should be evaluated and immediately reported to the local health department or contact the CDB Epidemiologist On-Call at 919/733-3419 to discuss laboratory testing and control measures.

Diagnosis and Prevention Measures: Testing for MERS-CoV is available at the North Carolina State Laboratory of Public Health. Testing requires consultation and pre-approval from the state Communicable Disease Branch. Detailed information about specimen collection and transport is available at <http://slph.ncpublichealth.com/doc/NCSLPH-MERS-CoV-Guidelines.pdf>.

Standard, contact, and airborne precautions are recommended for management of hospitalized patients with known or suspected MERS-CoV infection. These include:

- Use of fit-tested NIOSH-approved N95 or higher level respirators
- Use of gowns, gloves and eye protection
- Use of negative-pressure airborne infection isolation rooms if available

A facemask should be placed on the patient if an airborne infection isolation room is not available or if the patient must be moved from their room. Additional guidance is available at <http://www.cdc.gov/coronavirus/mers/infection-prevention-control.html>.

For more information contact Penny Moore at 704.353.1270 or Wlilma.Moore@MecklenburgCountyNC.gov.

Legionellosis Awareness

Legionella is a bacterium found naturally in our environment, usually water. The Legionella bacteria prefer warm water such as hot tubs, cooling towers, hot water tanks, large plumbing systems, and decorative fountains. The bacterium was named after an American Legion convention in Philadelphia, Pennsylvania in 1976 in which many of the attendees became ill. The bacteria was around before 1976, but more Legionellosis illness is now being detected.

The Legionella bacteria can cause two types of illness. *Legionnaires' Disease* which is characterized by pneumonia, cough, and fever. Hospitalization is usually required and is treated with antibiotics. The case fatality rate is anywhere from 5% to 30%. The second disease from Legionella bacteria is *Pontiac Fever*. Pontiac Fever usually causes flu-like illness without pneumonia. Hospitalization is usually not needed and is not treated with antibiotics.

Legionnaires' Disease is acquired when persons breathe in a mist or vapor. The Legionella bacteria is not spread from person to person. Most healthy persons exposed to the bacteria do not become ill. Persons at higher risk for developing Legionnaires' Disease are persons over the age of 50, current or former smokers, those with chronic lung diseases like COPD or emphysema, and those that are immune suppressed from diseases like diabetes, cancer, kidney failure, or HIV/AIDS. Persons who take drugs that suppress the immune system are also at risk, this includes transplant patients or persons taking chemotherapy.

There are two preferred tests to diagnose Legionnaires' Disease. The first is the Urine Antigen test. If a patient has been diagnosed with pneumonia and has a positive Legionella Urinary Antigen test, the patient is considered a confirmed case. The second test is a culture test isolated from sputum, lung biopsy, or other sites. A positive culture from one of these sites is also considered confirmed diagnosis for Legionnaires' disease.

The key to preventing Legionellosis is the proper maintenance of water systems. This includes drinking water systems, hot tubs, cooling towers, and decorative fountains.

In March 2014, a cluster of five patients was diagnosed with Legionellosis from four different North Carolina Triad region counties. There was also one case of Legionellosis diagnosed in a Mecklenburg County resident in March 2014. Extended patient/family interviews were conducted and completed by the Communicable Disease Branch using CDC's Legionellosis hypothesis generating questionnaire on the five Triad region and one Mecklenburg County cases. No epidemiological links in the patients risk history among these six patients were identified. The Communicable Disease Branch and the effected local health departments in each of these six Legionnaires' Disease patients will continue enhanced surveillance for this disease.

For more information, contact Brian Lackey at 704.336.5498 or Brian.Lackey@MecklenburgCountyNC.gov.

Cryptosporidiosis Infections through Recreational Water Activities

With warmer weather now here, many of us will be spending more time with friends and family around lakes and swimming pools. There is one disease that thrives in recreational and drinking water and is caused by the parasite, Cryptosporidium. Cryptosporidiosis made news in North Carolina in December 2013 when at least 14 high school swim team members in Durham and Orange Counties were diagnosed with the disease.

Cryptosporidium is found in the fecal matter of persons who have been infected. Transmission is by the fecal-oral route. The incubation period for Cryptosporidiosis is from 1 to 12 days, with an average of 7 days. Symptoms include watery diarrhea, stomach pains, cramps, low grade fever, nausea, vomiting, and weight loss.

Cryptosporidium disease in persons with intact immune systems usually only causes mild diarrhea, but may also produce asymptomatic infections. Most persons with healthy immune systems will recover without treatment. Persons with diarrhea should drink plenty of fluids to prevent dehydration. The elderly, young children, and pregnant women may develop serious illness that require hospitalization. In immunosuppressed

persons the disease can produce serious, even fatal infections. Those persons that are immunosuppressed should contact their health care providers for treatment recommendations.

Diagnosis is made by the examination of stool samples. Control measures consist of hand washing, excellent hygiene practices, and staying out of swimming pools while experiencing diarrhea or having experienced diarrhea in the previous two weeks. Once the patient diagnosed with Cryptosporidiosis has a negative stool test and no longer has diarrhea, the infected person may return to swimming.

In the Durham/Orange County Cryptosporidium swim team outbreak, no one specific pool could be pinpointed as the source pool since the students on the swim teams were in multiple pools for meets and practices. A number of pools in the Durham and Orange Counties hyperchlorinated their pools on a weekly basis to stop the spread of the parasite.

For more information, contact Brian Lackey at 704.336.5498 or Brian.Lackey@MecklenburgCountyNC.gov.

Detect and Protect Against Antibiotic Resistance: CDC's Initiative to Outsmart this Threat

The Problem - Antibiotic Resistance

It's been called public health's ticking time bomb. Antibiotic resistance—when bacteria don't respond to the drugs designed to kill them—threatens to return us to the time when simple infections were often fatal. Today, antibiotic resistance causes more than 2 million illnesses and 23,000 deaths in the United States, annually. Tomorrow, if it continues on its current course, could be even worse:

- A simple cut of the finger could lead to a life threatening infection.
- Common surgical procedures, such as hip and knee replacements, would be far riskier because of the danger of infection.
- Dialysis patients could develop untreatable bloodstream infections.
- Life saving treatments that suppress immune systems, such as chemotherapy and organ transplants, could potentially cause more harm than good.

The Solution – Outsmart Antibiotic Resistance

The **Detect and Protect Against Antibiotic Resistance** Initiative, known as the **AR Initiative**, gives us a good head start. The 2015 President's budget requests \$30 million annual funding level for 5 years. In 2013, CDC identified four core actions needed to stay one step ahead of antibiotic resistance:

- Detect and track patterns of antibiotic resistance
- Respond to outbreaks involving antibiotic-resistant bacteria
- Prevent infections from occurring and resistant bacteria from spreading

- Discover new antibiotics and new diagnostic tests for resistant bacteria

The Details – Outlining the Solutions on two fronts

Improve detection through a **new 5-region AR Regional Lab Network: "solutions 1 through 3"**

- Speed up the identification of the most concerning resistant threats
- Increase susceptibility testing to see which antibiotics stop bacteria from growing
- Accelerate the development of new diagnostics and antibiotics
- Ensure all labs in the network can easily share new discoveries

Prevent infections and improve antibiotic prescribing practices: **"solution 4"**

- Establish the AR Prevention Collaboratives – group of healthcare facilities in communities around the country that work together to implement best practices for inpatient antibiotic prescribing and preventing infections.
- Target concerning community threats, like Multi-Drug Resistant (MDR) *Salmonella* and MDR *N. gonorrhoeae* infections.
- Study Adverse Event of Antibiotics prescribed to infants and young children and future health problems such as: obesity, asthma, eczema, allergies, and *C. difficile* infections.

For more information contact Taleba Parris at 704.336.5076 or Taleba.Parris@MecklenburgCountyNC.gov or visit <http://www.cdc.gov/drugresistance/>

Is Your Practice Ready For Measles?

Do you have any patients that are not immunized for measles? Do your patients know their measles immunization status? How many of them travel abroad? As of May 23, 2014 there have been 40 unimmunized returning travelers to the US who brought home an unexpected and very problematic souvenir; MEASLES. These 40 cases have resulted in 288 and growing outbreak related cases. This number 288 exceeds the largest number of measles cases reported in the United States in any year since measles elimination in 2000 and we are not even half way through the year. Thus far the US has had imported measles cases from 18 different countries.

Do you recommend measles vaccination to your patients who come to you for travel recommendations? One dose of measles-mumps-rubella (MMR) vaccine is recommended for infants aged 6–11 months before travel, and 2 doses for persons aged ≥12 months, with a minimum interval between doses of 28 days.

To protect your patients from these unimmunized travelers, do you check their immunization status and recommend second vaccines to those who only received one, and full immunization for those who do not know their status? Do you encourage parents to immunize their children and provide them supporting information if they waiver? Measles is a highly contagious, acute viral illness that can lead to serious complications and death.

Is your registration staff familiar with the signs and symptoms of measles and treat with heightened suspicion any patient presenting with a febrile rash illness? Do they know to get these patients out of the waiting room, into a private exam room or negative pressure isolation room with a closed door immediately until they can be seen by a physician? Suspected cases of measles should be reported to the Health Department immediately.

For more information, contact Belinda Worsham at Belinda.Worsham@MecklenburgCountyNC.gov or 704.336.5490.

Hepatitis B Immunization of Preterm Infants Weighing <2000g

If the Maternal HBsAg status is Positive

Administer Hepatitis B immune globulin (HBIG) and a single antigen Hepatitis B vaccine within 12 hours of birth.

Do not count the birth dose as part of the vaccine series.

Administer 3 additional Hepatitis B vaccine doses with:

- Single antigen vaccine at ages 1, 2-3, and 6 months **or**
- Hepatitis B containing combination vaccines at ages 2, 4, and 6 months (Pediatrix) or 2,4, and 12-15 months (Comvax).

Test for HBsAg and antibody to HBsAg 1-2 months after completion of ≥ 3 doses of licensed Hepatitis B vaccine series (usually between the ages of 9-18 months at a regularly scheduled well-child visit). Testing should not be performed before age 9 months or within 4 weeks of the most recent dose of Hepatitis B vaccine.

If the Maternal HBsAg status is unknown

Administer HBIG and a single antigen Hepatitis B vaccine within 12 hours of birth.

Test the mother for HBsAg.

Administer 3 additional Hepatitis B vaccine doses with:

- Single antigen vaccine at ages 1, 2-3, and 6 months **or**
- Hepatitis B containing combination vaccine at ages 2, 4, and 6 months (Pediatrix) or 2, 4, and 12-15 months (Comvax).

If the Maternal HBsAg status is negative

Delay first dose of Hepatitis B vaccine until age 1 month or hospital discharge.

Complete the Hepatitis B vaccine series with:

- Single antigen vaccine at ages 2 months and 6-18 months **or**
- Hepatitis B containing combination vaccine at ages 2, 4, and 6 months (Pediatrix) or 2, 4, and 12-15 months (Comvax).

In all scenarios, the final dose of Hepatitis B vaccine should never be given before the age of 24 weeks.

For more information, contact Brian Lackey at Brian.Lackey@MecklenburgCountyNC.gov or 704.336.5498.

CDC Health Travel Website

If you love to travel like I do and you are planning to travel anywhere in the United States or internationally, CDC has redesigned and improved the travel site. Visit the site to learn more about travel notices; including all updates, warnings, alerts and watch level information. Also what disease or outbreaks are occurring in what areas. There is a designation page to provide information for travelers and clinicians. Disease directory talks about travel related ill-

nesses. Health care providers visiting the site will find a variety of resources in the **Clinician Information Center**, including continuing education and training opportunities, clinical updates for travel medicine, and other helpful references.

For more information go to: travelershealthwebsite or contact Freda Grant at 704.336-6436 or Freda.Grant@MecklenburgCountyNC.gov.

Malaria Transmission Returns to Egypt

There had been no local transmission of malaria in Egypt for 15 years, until recently. The CDC has received information that there are 19 locally-acquired *Plasmodium vivax* malaria cases in one village of the Aswan Governorate in May and early June. The Egyptian authorities have begun intensive malaria control activities in the affected village. The CDC recommends that travelers to the Aswan Governorate use mosquito avoidance measures to prevent ma-

laria. Preventive measures include using insect repellents, wearing protective clothing, and sleeping in either an air conditioned or screened setting or under an insecticide-treated bed net.

For more information, contact Jane Hoffman at 704.336.6438 or Jane.Hoffman@MecklenburgCountyNC.gov.

Changing of the Guard

For many years, residents of Mecklenburg County have called 704.336.6440 with questions concerning animals and animal bites. Although the phone number remains the same, the person on the other end of the line has changed. After 38 years, Al Piercy has retired. His expertise will be missed by many.

The Health Department and Communicable Disease Control is pleased to welcome our new Epi Specialist, Jose Pena. "I was raised in West Palm Beach, Florida and graduated from The University of Colorado in 2000. I was a So-

cial Service Counselor in Palm Beach County and have 14 years of public health experience including tuberculosis, hepatitis, and epidemiology. I moved to Charlotte in 2006 and worked as a Health Investigator at Mecklenburg County Health Department. I am extremely honored and humbled to be selected as the new Epidemiologist Specialist for the County."

Jose can be contacted at 704.336.6440 or Jose.Pena@MecklenburgCountyNC.gov.

North Carolina Department of Health and Human Services
Division of Public Health • Epidemiology Section
Communicable Disease Branch • Immunization Branch (WCH Section)



ATTENTION PHYSICIANS/HOSPITALS:
Mail/fax this form to your local health department.

Mecklenburg County Health Department
700 North Tryon St., Ste. 214
Charlotte, NC 28202

Sexually Transmitted Diseases, HIV & AIDS
(Call) 704.432.1742 or (Fax) 704.336.6200

All Other Reportable Communicable Diseases
(Call) 704.336.2817 or (Fax) 704.353.1202

Confidential Communicable Disease Report—Part 1

NC DISEASE CODE
(see reverse side for code)

DATE OF SYMPTOM ONSET

Patient's First Name Middle Last Suffix Maiden/Other Alias

Birthdate (mm/dd/yyyy) Sex M F Trans. Parent or Guardian (of minors) Patient Identifier
SSN

Patient's Street Address City State ZIP County Phone
() -

Age Age Type Years Months Weeks Days
Race (check all that apply): White Black/African American American Indian/Alaska Native Native Hawaiian or Pacific Islander
Ethnic Origin Asian Hispanic Non-Hispanic Other Unknown

Initial Source of Report to Public Health:
 Health Care Provider (specify):
 Hospital Private clinic/practice Health Department Correctional facility
 Laboratory Other

Was patient hospitalized for this disease? (>24 hours) Yes No
Did patient die from this disease? Yes No
Is the patient pregnant? Yes No

Name: _____
Contact Person/Title: _____
Phone: () - Fax: () -
Date Local Health Department Notified: _____

Patient is associated with (check all that apply):
 Child Care (child, household contact, or worker in child care)
 School (student or worker)
 College/University (student or worker)
 Food Service (food worker)
 Health Care (health care worker)
 Correctional Facility (inmate or worker)
 Long Term Care Facility (resident or worker)
 Military (active military, dependent, or recent retiree)
 Travel (outside continental United States in last 30 days)

Where was disease/condition most likely acquired?
 In patient's county of residence
 Outside county, but within NC - County: _____
 Out of state - State/Territory: _____
 Out of USA - Country: _____
 Unknown

Local Health Department Use Only
Was this disease part of a recognized outbreak?
 Yes No
Outbreak setting:
 Restaurant/Retail (name): _____
 Household (index case): _____
 Child Care (name): _____
 Other (specify): _____
 Community (index case): _____

Local Health Department Use Only
Communicable Disease Nurse or Designee Reporting to DPH:
Name: _____
Phone: () -
Date sent to DPH: _____
Local Health Director's Signature or Stamp Approving Report

CLINICAL INFORMATION

Specify patient symptoms and treatment:

For sexually transmitted diseases only—if patient was treated, specify medication, dosage, & duration:

DIAGNOSTIC TESTING

LABORATORY TESTING:

Collection Date	Result Date	Type of Test	Specimen Source	Results (include serogroup/type)	Reference Range	Lab Name—City/State
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Attach Lab Report

Reporting Communicable Diseases – Mecklenburg County

To request N.C. Communicable Disease Report Forms, telephone 704.336.2817

Mark all correspondence “CONFIDENTIAL”

Tuberculosis:

TB Clinic	704.432.2490
Mecklenburg County Health Department	FAX 704.432.2493
2845 Beatties Ford Road	
Charlotte, NC 28216	

Sexually Transmitted Diseases, HIV, & AIDS:

HIV/STD Surveillance	704.432.1742
Mecklenburg County Health Department	FAX 704.336.6200
700 N. Tryon Street, Suite 214	
Charlotte, NC 28202	

All Other Reportable Communicable Diseases including Viral Hepatitis A, B & C:

Report to any of the following nurses:

Freda Grant, RN	704.336.6436
Elizabeth Quinn, RN	704.336.5398
Belinda Worsham, RN	704.336.5490
Brian Lackey, RN	704-336-5498
Penny Moore, RN	704.353.1270
Taleba Parris, RN	704.336.5076
Shawn Wilson, RN (CD/Child Care)	704.432.1975
Communicable Disease Control	FAX 704.353.1202
Mecklenburg County Health Department	
700 N. Tryon Street, Suite 271	
Charlotte, NC 28202	

Animal Bite Consultation / Zoonoses / Rabies Prevention:

Jose Pena	704.336.6440
Communicable Disease Control	FAX 704.353.1202
Mecklenburg County Health Department	
700 N. Tryon Street, Suite 214	
Charlotte, NC 28202	
or State Veterinarian	919.733.3410
State after hours	919.733.3419

Suspected Food borne Outbreaks / Restaurant, Lodging, Pool and Institutional Sanitation:

Food & Facilities Sanitation	(Mon-Fri)	704.336.5100
Mecklenburg County Health Department	(evenings; Sat/Sun)	704.432.1054
700 N. Tryon Street, Suite 208	(pager evenings; Sat/Sun)	704.580.0666
Charlotte, NC 28202	FAX	704.336.5306

Mecklenburg County Health Department